

Application No. : 10/679,963
Amdt. Dated : September 19, 2005
Reply To O.A. Of : May 17, 2005

REMARKS

By way of summary, claims 11 – 18 and 24 – 30 were pending in this application. In the present amendment, the Applicants amended claim 11, canceled claims 12 – 18 without prejudice or disclaimer, and added new claims 31 – 38.

By way of explanation and not limitation, canceled claims 12 – 18 recited further structures relevant to attachment mechanisms and their interaction with positioning members on the probe housing. Amended independent claim 11 removed at least the limitations of positioning members and attachment mechanisms from the probe housing. Therefore, new dependent claim 31 recites the positioning members and new claims 32 – 38, which dependent from claim 31 or one of its dependent claims, correspond to canceled claims 12 – 18.

Accordingly, claims 11 and 24 – 38 remain pending for consideration.

Rejections Under 35 U.S.C. §§ 102 (e) – O'Neil

The Office Action rejected claim 11 under 35 U.S.C. § 102(e) as being anticipated by U.S. patent no. 6,748,254, issued to O'Neil et al. (the O'Neil patent). The Applicants respectfully submit the cited art fails to identically teach every element of amended independent claim 11. See M.P.E.P. § 2131 (stating that in order to anticipate a claim, a prior art reference must identically teach every element of the claim).

For example, amended independent claim 11 recites, among other things,

Claim 11. An optical probe . . . comprising:
one or more emitters . . . ;
detector circuitry . . . ;
a substantially rigid probe housing including a substantially planar lens side, wherein said probe housing houses the one or more emitters and the detector circuitry;
a single substantially circular substantially convex emitter . . . ;
a single substantially circular substantially convex detector lens . . . ; and
a protruding optical barrier protruding from the probe housing substantially along an axis perpendicular to a line connecting the single emitter lens and the single detector lens, . . . wherein only the single emitter lens, the single detector lens, and the optical barrier protrude from the substantially planar lens side of the probe housing, thereby reducing an amount of protruding structure recessing into the body tissue of the patient. (*emphasis added*).

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In contrast, the O'Neil patent discloses lenses 4 bonded within a non-planar optical mount 6 including two extended mounting platforms (Figs. 1 – 3; col. 3:52-57 and 3:62 – 4:2). The Office Action argued that despite the discussion of O'Neil at col. 5:32 – 42, the O'Neil patent expressly taught that the mounting platforms of the optical mount 6 will protrude into body tissue. See e.g., Fig. 4. Regardless of whether such platforms protrude into the tissue, the Office Action relies on the platforms 6 to provide a teaching of an optical barrier (see col. 3:53-56). As shown in Figs. 1 – 4, the mounts surround the lenses 4.

The Applicants respectfully submit that if the mounts recess into the tissue, as argued by the Office Action, then they recess into the tissue substantial material unused for shunting light, e.g., the material on the opposite side of the other lens, potentially unnecessarily damaging such tissue and/or unnecessarily causing added discomfort to the patient. On the other hand, if the mounts do not recess into the tissue, then O'Neil fails to teach an optical barrier.

Accordingly, the O'Neil patent fails to identically teach or suggest every element of amended claim 11. Therefore, the Applicants respectfully submit that the O'Neil patent fails to anticipate amended Claim 11. Accordingly, the Applicants request withdrawal of the rejections based thereon.

Rejection Under 35 U.S.C. § 103(a) – O'Neil Combinations

The Office Action rejected claim 11 under 35 U.S.C. § 103 as being unpatentable over the U.S. patent no. 5,772,587, issued to Gratton et al. (the Gratton patent) in view of the O'Neil patent. The Office Action also rejected canceled claims 12-16 (similar to now pending claims 31 – 38) over the Gratton and O'Neil patents, further in view of U.S. patent no. 5,830,137, issued to Sharf et al. (the Sharf patent) and U.S. patent no. 4,802,485, issued to Bowers et al. (the Bowers patent). Moreover, the Office Action rejected claims 28 – 30 over the O'Neil patent in view of U.S. patent no. 5,237,994, issued to Goldberger et al. (the Goldberger patent). The Applicants submit that any of the foregoing references, alone or combined with any of the others, fail to teach or suggest all the elements of the claims. See M.P.E.P. § 2143 (stating that in order to establish a *prima facie*

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case of obviousness for a claim, the prior art references must teach or suggest all the claim limitations).

Gratton

The Gratton patent teaches a sensor 12 with sensor face 14 for contacting the skin. The sensor face 14 includes eight light sources 22, 24, a light shield 30 and one of a light sensor 26 with optical fiber or light detector. Col. 5:56-58. Other than circles and a rectangle shown on a top plan view, the Gratton patent is silent as to the structure of the light sources 22, 24, light shield 30 and light sensor 26. Thus, the Gratton patent fails to teach or suggest the elements of independent claim 11.

The Office Action alleges that it would have been obvious to use the convex lenses of O'Neil since such lenses assist in optical coupling to the skin. However, as discussed with respect to the O'Neil patent, O'Neil teaches use of convex lenses 4 mounted on mounting platforms 6 in a manner that fails to teach or suggest the specific recitations of claim 11. Thus, even if it were proper to combine the teachings of the Gratton patent with the teachings of the O'Neil patent, which is not conceded hereby, the combination still fails to teach or suggest all the elements of independent claim 11. Therefore, the Applicants respectfully submit that the Gratton patent, alone or in combination with the O'Neil patent, fails to render obvious amended Claim 11. Accordingly, the Applicants request withdrawal of the rejections based thereon.

With respect to the rejection of canceled claims 12-16 (similar to now pending claims 31 - 38) over the Gratton patent in view of all of the O'Neil, Sharf, and Bowers patents, the Applicant's note that these claims depend from claim 11, and therefore are allowable for rationale similar to that discussed with respect to claim 11 and for additional features recited therein. Moreover, the Applicants note that the Office Action is now relying on a combination of four different references. The Applicants submit that it appears the Office Action is using impermissible hindsight, e.g., the blueprint of the claims, to stitch together otherwise unmotivated combinations of the prior art.

Goldberger

The Goldberger patent teaches a pulse oximetry sensor using LEDs of 655 nanometers. However, the Goldberger patent fails to teach or suggest use of such

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LEDs in combination with an oximeter expecting different wavelengths, for the purpose of improving the accuracy of the oximeter. Moreover, the Goldberger patent fails to supply the teachings or suggestions missing from the O'Neil patent, discussed above. Therefore, the O'Neil patent, alone or in combination with the Goldberger patent, fail to teach or suggest all the limitations of dependent claims 28 – 30. Accordingly, the Applicants request withdrawal of the rejections based thereon.

Rejection Under 35 U.S.C. § 103(a) – Mannheim Combinations

The Office Action rejected claims 11 and 25 – 27 under 35 U.S.C. § 103 as being unpatentable over the U.S. patent no. 5,099,842, issued to Mannheim et al. (the Mannheim patent) in view of U.S. patent no. 5,813,980, issued to Levinson et al. (the Levinson patent). The Applicants submit that the Mannheim patent, alone or combined with the Levinson patent, fails to teach or suggest the elements of the claims.

The Mannheim patent discloses an oximetry probe 210 including many light-transmissive bumps 100 for covering the emitter and detector elements. The bumps 100 are bordered by many opaque bumps 190 to reduce light shunting between the emitters and detector. See Fig. 3(a)-(b). Mannheim discloses the bumps 100, 190 as improvements over the "single bump of the prior invention." Col. 1:63-68. Mannheim provides an alternative embodiment stating that the "opaque bumps 190 can be placed between light-transmissive bumps 100 without enclosing them."

Thus, the Applicants submit that Mannheim fails to teach or suggest all elements of claim 11. The Office Action cites to the Levinson patent only to provide a teaching for an attachment mechanism, and therefore, the Levinson patent fails to supply the teachings missing from the Mannheim patent. Accordingly, the Mannheim patent in view of the Levinson patent still fail to teach or suggest all the elements of claim 11.

Dependent claims 25 – 27, which depend on claim 11, are allowable for the reasons set forth with respect to claim 11 and for the additional limitations recited therein.

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Request For Telephone Interview

In view of the forgoing, the present application is believed to be in condition for allowance, and such allowance is respectfully requested. If further issues remain to be resolved, the Applicants' undersigned attorney of record hereby formally requests a telephone interview with the Examiner. The Applicants' attorney can be reached at (949) 721-2946 or at the number listed below.

In addition, please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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